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2008

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### Recommended Citation

Dwivedi, Yogesh; Williams, Michael D.; Lal, Banita; and Dwivedi, Anju, "A Profile of Research on Adoption and Diffusion of ICT/IT/IS in the Consumer/Household/Residential Context" (2008). *AMCIS 2008 Proceedings*. 93.  
<http://aisel.aisnet.org/amcis2008/93>

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# A Profile of Research on Adoption and Diffusion of ICT/IT/IS in the Consumer/Household/Residential Context

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## ABSTRACT

The aim of this paper is to provide a comprehensive and systematic review of the literature pertaining to consumer/household/residential adoption and diffusion issues in relation to ICT/IT/IS in order to ascertain the current “state of play” within the field along a number of dimensions. 80 articles on the adoption, acceptance and diffusion of ICT/IT/IS - published in 54 peer reviewed journals between 1998 and 2008- were reviewed, from which information on a series of variables were extracted. The subsequent findings suggest that the positivist paradigm, empirical and quantitative research, the survey method and the TAM theory were predominantly used when investigating the topics of the adoption and diffusion of technology within the consumer/household/residential context. It is anticipated that the results of this research may have implications for researchers, journal editors, reviewers and universities.

## Keywords

Adoption, acceptance, bibliometric analysis, consumer, diffusion, ICT, IS, IS research, IT, literature review, research method, theories, technologies

## INTRODUCTION

The study of the adoption and diffusion of Information and Communication Technologies (ICTs) is one of the more mature research areas within the Information Systems (IS) discipline, however, much of the activity within this area tends to focus upon conducting investigations from the organizational and/or end-user/employee perspectives. As a result, researchers have been far less frequent to approach the topic of technology diffusion and adoption from the residential/household perspectives of consumers and citizens. While the key role of ICTs within business and government is now well-recognized, it is equally important to acknowledge that in modern society, ICTs have become prevalent in the daily home lives of many individuals in forms such as e-commerce, e-government, e-learning, e-health, and e-working. Indeed, the UN recognizes the importance of the various participating parties -including the citizen as well as organizations- within the digital environment in promoting the development of the information society. This relatively recent emergence of the technology-contextualized home environment has, in turn, generated numerous issues worthy of investigation. This includes understanding the awareness, adoption and usage of emerging technologies and electronic services, and the social exclusion created due to the unequal adoption of technology by different segments of society. Such residential/household-related issues are clearly of interest to IS researchers, having been the focus of a variety of publications including Blackwell (2004), Brown and Venkatesh (2005), Brown et al. (2006), Dwivedi et al., (2006), Shannon (2006) and Venkatesh and Brown (2001). However, given the broad range of issues which offer potentially fruitful areas for investigation, and the varying approaches that may be employed to explore them, it is sometimes unclear where such research outputs have been published.

Reviewing and profiling the existing literature on IS/IT adoption and diffusion is likely to be of use to researchers in assisting them to identify currently under-explored research issues and select theories and methods appropriate to their investigation: all of which are critical issues for conducting productive, original and rigorous research. This will also help to identify the existing strengths and weaknesses of the pertinent research streams, promote discussion regarding critical issues in the area, and assist in the identification of alternative theoretical and methodological perspectives (Venkatesh et al. 2007).

There have been a number of reviews and meta-analytic articles published in the IS area to date. However, perhaps due to the customary inclination of the IS researcher to make use of the Technology Acceptance Model (TAM), almost all of the existing studies have focused primarily upon reviewing the literature relating to technology acceptance within the organisational context rather providing a comprehensive review in general on the area of adoption and diffusion within the consumer/household/residential context (a number of these studies are identified and briefly discussed further in Section 2). Thus, the general aim of this exploratory paper therefore is to provide a more comprehensive and systematic review of the literature pertaining to IS/IT adoption and diffusion research in order to ascertain the current "state of play" within the area along a number of dimensions. This overall aim is realised by means of the following objectives: 1) to identify the journals publishing most articles on IS/IT adoption, acceptance and diffusion within the consumer/household/residential context; 2) to present the general trends on adoption and diffusion research according to the year of publication; 3) to identify countries (and hence areas of greatest activity) with the largest number of publications on IS/IT adoption, acceptance and diffusion within the consumer/household/residential context; 4) to identify authors active in the area of IS/IT adoption, acceptance and diffusion consumer/household/residential context; 5) to classify the publications according to three keywords 'Adoption', 'Acceptance' and 'Diffusion'; 6) to classify the publications according to three keywords 'Consumer', 'Household' and 'Residential'; 7. to classify adoption and diffusion publications according to the research paradigm; 8) to classify adoption and diffusion publications on the basis of their use of primary research data (empirical and non empirical); 9) to classify adoption and diffusion publications on the basis of the nature of primary research data (quantitative and qualitative); 10) to classify adoption and diffusion publications according to the research methods employed; 11) to explore and identify the various technologies examined; 12) to explore the theories and theoretical constructs utilised when examining the adoption, acceptance and diffusion of IS/IT within the consumer/household/residential context.

In order to realise these objectives, a systematic and comprehensive review of 80 articles appearing in 54 different peer-reviewed journals (see Table 2) during the period 1998-2008 was conducted. The remainder of this paper is structured as follows. In the following 'Research Methodology' section, a brief discussion of the method employed within this study in the analysis of the trends of the adoption and diffusion research within the consumer/household/residential context is presented. The findings of this study are then presented, ensued by the conclusions from this work and the associated limitations.

## RESEARCH METHODOLOGY

For the purpose of conducting this research we made use of the academic journals database provided by Thomson Scientific (previously known as the Institute for Scientific Information (ISI)). Thomson Scientific publishes the Science Citation Index (SCI) and the Social Science Citation Index (SSCI) as two of three elements of its Web of Science® product. The reason for selecting this database is that the majority of IS journals are included either within the Science Citation Index (SCI) or within the Social Science Citation Index (SSCI). Therefore, it is possible to search for and locate a significant proportion of the published material on the topic of diffusion and adoption within the IS discipline using the Web of Science® search facility. Moreover, restricting the search activities to a single publication database removed many of the potential problems of duplication which is inherent in the use of multiple data sources. The search-technique used within this research exercise was the 'General Search'. The main reason for employing a 'General Search' approach was simply that its easy-to-use characteristics facilitate the repetition of searches without any confusion, hence is straightforward to obtain consistent results in repetitive searches provided the same search criteria are applied.

In order to identify publications specific to the consumer adoption and diffusion area, the following search-terms were sought in this study:

**Title**=(**"ADOPTION"** OR **"ACCEPTANCE"** OR **"DIFFUSION"**) AND **Topic**=(**"IT"** OR **"INFORMATION TECHNOLOGY"** OR **"IS"** OR **"INFORMATION SYSTEM"** OR **"INFORMATION SYSTEMS"** OR **"ICT"** OR **"INFORMATION AND COMMUNICATION TECHNOLOGY"** OR **"INFORMATION AND COMMUNICATION TECHNOLOGIES"** OR **"INTERNET"** OR **"ELECTRONIC COMMERCE"** OR **"E-COMMERCE"** OR **"ELECTRONIC GOVERNMENT"** OR **"E-GOVERNMENT"** OR **"ELECTRONIC HEALTH"** OR **"E-HEALTH"**).

The search was restricted to occurrences of any of these keywords appearing in the article title and topic in order to avoid locating publications where any of these keywords might have been used as casual words in the main text. However, if one of these words appeared in the article title and topic, it suggested that the main focus of the article was adoption and diffusion of IT/IS/ICT in some form. The first search using these keywords resulted in more than 935 publications being selected, as the search was not restricted to the consumer/household/residential context. The search output was consequently narrowed by undertaking a further search within the search outputs by utilizing three keywords: Consumer OR Household OR Residential. This resulted in the extraction of 96 records providing details on publications relating to adoption, acceptance or diffusion.

All 96 items were then examined manually to crosscheck and confirm the relevance of the search results and 16 articles were then excluded from further analysis as they were not appropriate to the consumer/household/residential context.

A number of analyses were then conducted on the search output employing the various analysis tools available in the Web of Science®. Count and percentage data was generated for the assorted variables utilized to categorize the search output. Variables analyzed included subject category, journal in which an article appeared, year of publication, author, author's institution, and the country in which the research was conducted. A further detailed manual analysis was then conducted in order to extract various items of information which could not be obtained directly from the Web of Science® database. In order to do so, we examined each of the abstracts of the 80 articles contained in the search results. These abstracts were then individually scrutinized in order to obtain and record information such as the research paradigm, issues pertaining to primary data, the form of technology examined, and so on. Data obtained from this analysis relating to the variables under examination were first recoded in SPSS v.14, and then count and percentage values generated, the results of which are illustrated Tables 7-14. Data with technology examined and theory used were recorded in an open ended manner without considering the pre-specified categories. For the methodological variables we adopted categories from the previous studies of Avison et al. (2008) and Choudrie and Dwivedi (2005).

## FINDINGS

### Consumer Adoption & Diffusion Studies According to Subject Category

A total of 34 Web of Science® Subject Categories published a total of 80 articles on the consumer adoption and diffusion of ICT/IT/IS from the household/residential perspectives. Table 1 illustrates that a total of 12 Web of Science® Subject Categories have published research on consumer adoption and diffusion of ICT/IT/IS from the household/residential context, with the largest number of articles (29) appearing within the 'Computer Science, Information Systems' category. This is followed by 'Business' (22), 'Information Science & Library Science' (22), and then the 'Management' category (18). This is succeeded by 'Telecommunication' (8) category and then two categories, namely 'Economics' and 'Operations Research and Management Science', each with seven articles and four categories as listed in Table 1 with 5 articles each. The lowest number of articles in the Table (4) appeared in the 'Communication' category. It is important to note at this point that these results are indicative only, and are intended to provide a representation of the main areas of study in which research articles on consumer adoption and diffusion of ICT/IS/IT from the household/residential context are likely to appear. Clearly, extending the number of keywords would alter the results although, it is argued, not to the extent that it would substantially alter the overall profile. Due to space restrictions, not all the subject categories are listed here. Nevertheless, interested readers may find them and other information relating to the development of this paper at: <http://aadref.googlepages.com/amcis2008>.

	Subject Category (N=34)	Count (n=80)
1	COMPUTER SCIENCE, INFORMATION SYSTEMS	29
2	BUSINESS	22
3	INFORMATION SCIENCE & LIBRARY SCIENCE	22
4	MANAGEMENT	18
5	TELECOMMUNICATIONS	8
6	ECONOMICS	7
7	OPERATIONS RESEARCH & MANAGEMENT SCIENCE	7
8	ENGINEERING, INDUSTRIAL	5
9	COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE	5
10	COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS	5
11	PSYCHOLOGY, APPLIED	5
12	COMMUNICATION	4

**Table 1. Adoption & Diffusion Studies According to Subject Category**

### Consumer Adoption & Diffusion Studies According to Journals

A total of 54 journals published a total of 80 articles on the consumer adoption and diffusion of ICT/IT/IS from the household/residential perspectives. Table 2 presents the breakdown of only 13 search outputs according to the journals in which the articles on consumer adoption and diffusion of ICT/IT/IS appeared. Table 2 illustrates that the largest number of articles (6) on consumer adoption and diffusion appeared in the journal Information & Management and the least number (2)

of articles resulting from our search activities appeared in five journals. Other journals that have published a significant number of articles on consumer adoption and diffusion include Journal of Business Research (4), Psychology & Marketing (4) and then five journals each with three articles: Decision Support Systems, Industrial Management and Data Systems, Information Society, MIS Quarterly and Technological Forecasting and Social Change. Our findings further reveal that of the journals publishing the highest numbers of articles on consumer adoption and diffusion of ICT/IT/IS/Innovation, only one (Telecommunications Policy) is based outside the USA, with all the others being based in North America. This could be due to the fact that a large number of the articles in our search results were quantitative in nature, and it could well be the case that USA-based journals are comparatively more sympathetic to such material (Palvia and Pinjani, 2007). Furthermore, half of the top 13 journals are non-IS journals and belong to various disciplines, which suggests that consumer adoption and diffusion research is clearly cross-disciplinary in nature, therefore publishable beyond the IS-publishing terrain. Due to space restrictions not all the journals are listed here, although interested readers may find further details at: <http://aadref.googlepages.com/amcis2008>.

	Journal Title (N=54)	Count (n=80)
1	INFORMATION & MANAGEMENT	6
2	JOURNAL OF BUSINESS RESEARCH	4
3	PSYCHOLOGY & MARKETING	4
4	DECISION SUPPORT SYSTEMS	3
5	INDUSTRIAL MANAGEMENT & DATA SYSTEMS	3
6	INFORMATION SOCIETY	3
7	MIS QUARTERLY	3
8	TECHNOLOGICAL FORECASTING AND SOCIAL CHANGE	3
9	INTERNATIONAL JOURNAL OF SERVICE INDUSTRY MANAGEMENT	2
10	INTERNET RESEARCH-ELECTRONIC NETWORKING APPLICATIONS AND POLICY	2
11	NEW MEDIA & SOCIETY	2
12	PERSONAL AND UBIQUITOUS COMPUTING	2
13	TELECOMMUNICATIONS POLICY	2

**Table 2. Consumer Adoption & Diffusion Studies Outlets According to Journal**

#### Consumer Adoption & Diffusion Studies According to Year of Publication

Our findings (illustrated in Table 3) reveal that the number of articles published on consumer adoption and diffusion has constantly increased from 1998 (when only one paper was published across our selected journals) to 2008 (which has so far seen 4 papers appear). To date, the largest number of articles (21) appeared in 2006, closely followed by 2007 with a total count of 17 articles. Prior to 1998, no articles at all appeared in our selected journals. While it may be argued that the increasing number of articles appearing post-1998 illustrates increasing levels of interest and research activity in the subject area, i.e. the household/residential context, the lack of articles prior to this time may be attributed to a number of reasons. This may include the fact that not all journals in our search list were being published in each year. This point is particularly applicable to the earlier years considered. The development of areas such as electronic commerce, e-government, e-health, Internet services such as broadband and mobile services mainly emerged after the year 1995, thereafter resulting in a number of issues related with their management emerging and providing motivation for both IS and non-IS researchers to examine such issues from different disciplinary perspectives.

SN	Year	Count	SN	Year	Count
1	2008	4	7	2002	2
2	2007	17	8	2001	2
3	2006	21	9	2000	2
4	2005	12	10	1999	2
5	2004	4	11	1998	1
6	2003	13	12		

**Table 3. Adoption & Diffusion Studies Published between 1998-2008**

#### Consumer Adoption & Diffusion Studies According to Country

Our findings (illustrated in Table 4) highlight that the research presented in the 80 publications we identified on consumer adoption and diffusion was conducted in a total of 18 countries. By far the largest amount of published activity has taken

place in the USA, with a number of others countries (including the UK, Taiwan, South Korea, Netherlands, Australia, Finland, Canada, Singapore and Spain) also providing the location of a substantial amount of research activity which has resulted in publications that appeared in our search results. A number of countries (including Austria, Belgium, Egypt, Italy, South Africa and Switzerland) have been the location of research which has resulted in a low number of publications. Also, many countries such as India and Ireland, which are main outsourcing hubs for ICT/IT, have published no such articles. Given the overall level of research activity in such countries, and indeed the supposed high-profile of ICT, this is perhaps a surprising result and indicates that there is opportunity for additional research based in such countries to take place in order to further expand the existing knowledge base.

SN	Country	Article count	SN	Country	Article count
1	USA	41	10	SPAIN	3
2	UK	11	11	PEOPLES R CHINA	2
3	TAIWAN	10	12	PORTUGAL	2
4	SOUTH KOREA	5	13	AUSTRIA	1
5	NETHERLANDS	4	14	BELGIUM	1
6	AUSTRALIA	4	15	EGYPT	1
7	FINLAND	4	16	ITALY	1
8	CANADA	3	17	SOUTH AFRICA	1
9	SINGAPORE	3	18	SWITZERLAND	1

**Table 4. Consumer Adoption & Diffusion Studies According to Country**

#### Authors Actively Involved in Publishing Consumer Adoption & Diffusion Research

Table 5 lists the authors actively involved in conducting and publishing adoption and diffusion related research from the consumer/household/residential perspectives. It appears that the most productive authors in adoption and diffusion research (in terms of journal publications across the journals in our search) are: Brown, SA, Dwivedi, YK and Venkatesh, V, who have published three articles each. Nine authors have published two articles each. The remaining 162 authors published one article each in the set of journals comprising our search data. Due to space limitations these authors are not listed here, but interested readers may find details of them at: <http://aadref.googlepages.com/amcis2008>.

A profile (in terms of current affiliation, home department of authors and technology studied) of the most productive authors also presented in Table 5 suggests that although the majority of these authors are from the Information Systems field, there are also researchers from other areas such as Marketing, Hospitality Management and Economics who undertaking research relating to the adoption and diffusion of ICT/IT/IS within the consumer/household context. This suggests the cross-disciplinary nature of such research. Technologies that have been examined frequently include: the Personal Computer (PC), broadband, mobile, e-commerce and m-commerce. This may not come across as surprising considering that these technologies have reserved a permanent place in a large number of homes and provide household utility and convenience to home users. We also examined how collaborative such research is in terms of number of authors per paper. Our analysis suggests 16 papers were single authored, 32 papers co-authored by two authors each, closely followed by 24 papers co-authored by three authors each. A small number of papers were co-authored by more than three authors: five papers were co-authored by four authors, two papers by five authors each and finally only one paper by six authors. This indicates that a large number of papers were authored by more than one author, which further suggests the collaborative and cross-disciplinary nature of such research. However, to assert this confidently, a further examination of the home departments of all authors should be examined.

Author (N=174)	Count	Affiliation	Subject	Technology studied
BROWN, SA	3	University of Arizona	Information Systems	Personal Computer (PC)
DWIVEDI, YK	3	Swansea University	Information Systems	Broadband
VENKATESH, V	3	University of Arkansas	Information Systems	Personal Computer (PC)
BRUNER, GC	2	So Illinois University	Marketing	IT, m-commerce
CHOUDRIE, J	2	University of Hertfordshire	Information Systems	Broadband
DAMHORST, ML	2	Iowa State University of Science & Technology	Apparel Education Studies & Hospitality Management	Apparel shopping, Online Shopping
DINLERSOZ, EM	2	University of Houston	Economics	E-Commerce
KUMAR, A	2	So Illinois University	Marketing	IT, m-commerce



MALLAT, N	2	Helsinki School of Economics	Information Systems	Mobile Payment & Mobile Ticketing
PAVLOU, PA	2	University of California Riverside	Information Systems	E-Commerce
PEREIRA, P	2	Portuguese Competitive Author	Economics	E-Commerce
SHIN, DH	2	Penn State University	Information Science	IPTV, Mobile Internet

**Table 5. Authors Actively Involved in Publishing Adoption & Diffusion Research**

### Consumer Adoption & Diffusion Studies According to Institution

Table 6 identifies the institutions apparently most active in the area of consumer adoption and diffusion research. The overall number of contributions from each university varies from 1 to 3. Clearly three universities -with 3 publications each- have contributed the largest number (See Table 6) and can therefore be seen as leading centres of consumer adoption and diffusion related research. A number of other institutions (18) have also been the source of two publications each over the years. All of these institutions are identified in Table 6. Finally, 94 universities were the source of one article each. Again, due to space limitations, institutions producing less than two articles over the period under study are not listed in Table 6, but interested readers may find details of them at: <http://aadref.googlepages.com/amcis2008>.

SN	University (N=115)	Count	SN	University (N=115)	Count
1	NATL CENT UNIV	3	12	SO ILLINOIS UNIV	2
2	UNIV SO CALIF	3	13	SUNY BUFFALO	2
3	UNIV WISCONSIN	3	14	SWANSEA UNIV	2
4	BRUNEL UNIV	2	15	TEXAS TECH UNIV	2
5	HELSINKI SCH ECON	2	16	UNIV ARIZONA	2
6	HONG KONG BAPTIST UNIV	2	17	UNIV ARKANSAS	2
7	NATL SUN YAT SEN UNIV	2	18	UNIV CALIF IRVINE	2
8	NATL UNIV SINGAPORE	2	19	UNIV HOUSTON	2
9	PENN STATE UNIV	2	20	UNIV MELBOURNE	2
10	PORTUGUESE COMPETIT AUTHOR	2	21	UNIV MINNESOTA	2
11	SAN FRANCISCO STATE UNIV	2			

**Table 6. Universities Facilitating Adoption & Diffusion research resulting in Journal Publications**

It can be seen that the largest amount of research activity resulting in journal publications has occurred within universities in the USA and, to an extent, within institutions based in Taiwan and Hong Kong. It is interesting to note that only four European universities appear in our list (Brunel University, Helsinki School of Economics, Portuguese Competitive Authors and Swansea University). The list also includes only one Australian university (University of Melbourne). However, the list presented in Table 6 is largely dominated by USA-based institutions. Our results therefore provide a strong indication that adoption and diffusion research resulting in journal publications takes place primarily in the USA, with comparatively lower levels of activity (to date) taking place elsewhere.

### Adoption, Acceptance or Diffusion?

Three keywords 'Adoption', 'Acceptance', and 'Diffusion' were employed to search published output for this study. Table 7 presents information on the number of occurrences of each term in our search results. It can be seen from Table 7 that the keyword 'Adoption' was used by the largest number of articles (36), closely followed by 'Acceptance' (30), with the term 'Diffusion' being employed by the least number of items appearing in our search results (14).

Keyword	Count (n=80)	%
Adoption	36	45.0
Acceptance	30	37.5
Diffusion	14	17.5

**Table 7. Use of Adoption, Acceptance, or Diffusion in Article Title**

### Consumer, Household or Residential?

Three keywords 'Consumer', 'Household', and 'Residential' were employed to search published output for this study. Table 8 presents information on the number of occurrences of each term in our search results. It can be seen from Table 8 that the

keyword 'Consumers' was used by the largest number of articles (69), followed by 'Household' (8), with the term 'Residential' being employed by the least number of items appearing in our search results (3).

Keyword	Count (n=80)	%
Consumers	69	86.3
Household	8	10.0
Residential	3	3.8

**Table 8. Keywords**

### Consumer Adoption & Diffusion Studies According to Research Paradigm

The data presented in Table 9 clearly indicates that positivism (used in 70 articles) is the dominant or most popular research paradigm amongst consumer adoption and diffusion researchers, followed by the 'Descriptive/Conceptual/Theoretical' (Avison et al. 2008) being employed in 9 articles. Only one article provided some evidence of the interpretive paradigm.

Research Paradigm	Count (n=80)	%
Positivist	70	87.5
Interpretive	1	1.3
Descriptive/Conceptual/Theoretical	9	11.3

**Table 9. Research Paradigm (Source: categories adapted from Avison et al., 2008)**

### Research Methodology of Consumer Adoption & Diffusion Studies: Empirical vs. Non Empirical

A very large proportion of articles within our search results (71) were empirical in nature in comparison to articles that fell within the non-empirical category (9) (See Table 10).

Research Methodology	Count (n=80)	%
Empirical	71	88.8
Non-empirical	9	11.3

**Table 10. Research Methodology - Empirical vs. Non Empirical (Source: categories adapted from Avison et al., 2008)**

### Research Methodology of Consumer Adoption & Diffusion Studies: Quantitative vs. Qualitative

Table 11 illustrates that the quantitative approach has dominated consumer adoption and diffusion research. A total of 67 (83.8%) articles employed a quantitative approach (which also includes descriptive quantitative articles) in comparison to the qualitative approach which was employed by only 3 (3.8%) articles. Only one article employed a mix of data types, while nine articles were descriptive in nature.

Research Methodology	Count (n=80)	%
Quantitative	67	83.8
Qualitative	3	3.8
Conceptual/Theoretical/Meta-analysis	9	11.3
Mixed	1	1.3

**Table 11. Research Methodology - Quantitative vs. Qualitative (Source: categories adapted from Avison et al., 2008)**

### Research Method

Table 12 illustrates that although a total of 6 different research methods were recorded from our data analysis activities, the majority of studies (59) within our results employed survey methods. Other approaches identified included: literature review/conceptual/meta-analysis (10), experiment (5), panel data (2), interview (2) and mathematical (1).

Research Method	Count (n=80)	%
Survey	59	73.8
Experiment	5	6.3
Literature analysis/ Conceptual/Meta-analysis	10	12.5
Panel Data	2	2.5
Interview	2	2.5



Mathematical model	1	1.3
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**Table 12. Research Methods (Source: categories adapted from Avison et al., 2008)****Consumer Adoption & Diffusion Studies: Technology Examined**

Table 13 lists the diverse range of technologies examined in the 80 publications that formed our search results. It is clear from this Table that the scope is broad and, to an extent, reflects the emergence of different technologies over the period under consideration. In order to organize the technologies effectively, we have grouped them in the following two broad categories: technologies examined by two or more than two studies which include broadband, e-commerce, e-banking, internet, mobile, mobile internet, m-commerce, online shopping and personal computers. In Table 13, the figures in parentheses indicate the number of articles in each case, and it can be seen that the e-commerce category has been the most widely studied, followed by online shopping related issues. Table 13 also lists a range of specific technologies, applications and contexts which appear to have been investigated by just one study.

Frequency	Technology
Examined by more than one studies (47)	Broadband (6); e-Commerce (9); e-Banking (4); Internet (4) ; Mobile (2) ; Mobile Internet (3) ; m-Commerce (4); Online Apparel Shopping (2); Online Shopping (8); Personal Computer (PC) (3); Self Service Technology (SST) (2)
Examined by only one study (35)	Click-and-mortar strategy; Digital Television (DTV); e-Learning service; e-Service Systems; Electronic Brokerages; Electronic Consumer Response; Electronic Markets; Electronic Payment System; Health Information Websites; Information Technology; Innovative services; Internet and Mobile Telephony; Internet as a channel distribution; Internet as a channel of distribution; Internet services; Internet Telephony; IPTV; Late Diffused Technology Products; Loyalty Program; m-Banking; MMS; Mobile Learning; Mobile Payments; Mobile Ticketing; Net-enabled Infomediaries; New Product; Next Generation Products or Innovation; Online agent advice; Online Escrow Services (OES); Protected Digital Content; Recommender systems; SMS; Virtual communities; Web

**Table 13. Technologies Examined****Consumer Adoption & Diffusion Studies: Theory Employed**

Table 14 illustrates the theories employed in the study of consumer adoption and diffusion concepts in relation to ICT/IT/IS. TAM has emerged as the most popular theory with 26 (32.5%) studies employing it, followed by Diffusion of Innovation (DoI) theory which was used in 9 (11.3%) publications. The third largest category was the Theory of Planned Behaviour (TPB) which was utilized in 4 studies followed by the Theory of Reasoned Action (TRA) and Trust, each contributing to three studies. 21 other theories and models were either utilized or developed in the 80 publications, as identified in Table 14. In addition to these theories, 45 theoretical constructs were recorded from the various studies (See Table 14). The large number of theories and theoretical constructs employed clearly indicates the diversity of consumer adoption and diffusion research.

Theories	TAM	TPB	TRA	DoI	Trust
Count	26	4	3	9	3
%	32.5	5.0	3.8	11.3	3.8
Other Theories & Models	Augmented Technology Acceptance Model; c-TAM; Consumer loyalty and Consumer preferences; Extremity and positivity effects; Segmental Broadband Diffusion Model; Model of Adoption of Technology in Household (MATH); Household Life Cycle; Media Richness Theory; Motivational Theory; Personal Innovativeness of Technology (PIIT); Technology Readiness and Acceptance Model (TRAM); The economics of intermediation; Transaction cost analysis (TCA); The Expectancy Disconfirmation Theory; Decomposed Technology Acceptance Model; The Pleasure, Arousal, and Dominance Paradigm of Affect; Cognition; Consumer Acceptance of Technology (CAT) Model; Theory of Consumer Choice and Decision Making; Value-based Adoption Model (VAM); Transaction Cost Model				
Theoretical Constructs	Hedonic outcomes; Utilitarian Outcomes; Compatibility; Security; Normative beliefs; Self-efficacy (2); Contextual Factors - Budget constraints, Other Alternatives, Time Pressure; Cultural values, Perceived Risk (3), Subjective norm (2); Demographic variables; Fraud rate; Product price; Seller's reputation; Global and National Factors; History-based Confidence; Institution-based Confidence; Personality-based Confidence; Income (6); Age (5); Education (5); Occupational Class (4); Gender; Image Congruence; Perceived Enjoyment (3); Perceived Mobility Value; Perceived Media Richness; Perceived Service Quality (2);				

	Perceived Availability; Perceived Web Security; Privacy; Product Involvement; Premium Pricing; Complexity, Lack of Critical Mass; Previous Practice; Socio-economic characteristics (5); Innovativeness; Intrinsic and Extrinsic factors; Technology Readiness (TR) (2); Satisfaction; Perceived effectiveness; Perceived efficiency; Usage Support, Customization
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**Table 14. Theories and Theoretical Constructs Used****CONCLUSION**

The intention in this paper has been to provide a snapshot of the current state of adoption, acceptance and diffusion research within the consumer/household/residential context. To achieve this, the results of a systematic and comprehensive review of 80 articles appearing across 54 different peer-reviewed journals during the period 1998-2008 have been provided. We have presented the results of our investigation along a series of dimensions including the journals that most often publish articles on IS/IT adoption, acceptance and diffusion; authors most active in the subject area (in terms of articles published); the most commonly used methodological practice and use of primary data; the theories and theoretical constructs utilized, and the contexts and technologies examined. Our intention in conducting this investigation is to provide a useful and usable resource for future researchers interested in perusing adoption and diffusion research from the consumer, household or residential perspective.

Although the three keywords ‘Adoption’, ‘Acceptance’, and ‘Diffusion’ are often used interchangeably by researchers, our results suggest that ‘Adoption’ is preferred over the other two terms. It might be a point for further research to examine what determines the use of one of these three terms over the other. When considering research in terms of the research paradigm, the positivist approach is currently employed to a much greater extent than both the interpretive and descriptive/theoretical approaches. This suggests an apparent indication of adoption and diffusion researchers neglecting other paradigms which has implications for editors, reviewers and authors. Similarly, the utilization of empirical and quantitative techniques and survey research methods appears to have been much preferred over other available alternatives. It is clear that a rich diversity of theories and theoretical constructs exist within the extant literature, but researchers to date have overwhelmingly made use of just one theory: ‘TAM’. This suggests that IS/IT adoption and diffusion research is gradually moving towards overall homogeneity, which is clearly likely to weaken the field of technology adoption research. Therefore, we believe there are palpable messages for authors to make greater use of the theoretical and methodological variety available to them, and for journal reviewers and editors to support the use of such alternative approaches. Unless such actions are taken, the adoption and diffusion research itself will diffuse only within a limited domain. We anticipate this paper will prove to be a useful source of information for those readers who wish to learn more about the various facets relating to the existing body of published technology adoption and diffusion research from the consumer perspective.

As well as recognising the potential benefits of this study, we fully acknowledge that our study has a number of limitations, and readers should be aware of these and interpret the material presented in this paper within the context of these limitations. Firstly, our search activities were restricted to occurrences of the selected keywords in the article titles and topics only, and we fully acknowledge that there may be numerous studies which lack all three keywords in the title, but still focus upon adoption and diffusion in the main text. For example, the work of Choudrie and Dwivedi (2005a) and many pioneering studies in the area by Alladi Venkatesh either focus upon on consumer adoption and diffusion issues or on household and technology aspects, but these studies did not appear in our search results as it lacked any of the keywords in the title. This emphasizes the need of judicious use of keywords if researchers wish their research to be visible to other researchers in the area. Furthermore, it is likely that many articles may have been published in journals not indexed in the ISI database which means they were excluded from the analysis. This requires a further manual search across relevant journals for appropriate articles. Although we believe that this paper has analyzed the largest number of articles in comparison to other existing review articles on this theme, we believe that further comprehensive research is required in order to reduce the impact of the limitations we have identified above to facilitate a greater understanding of the domain of IS/IT adoption research.

**REFERENCES**

NOTE: Due to space limitations, references analyzed for the review are not be listed here, but interested readers find them and other information relating to the development of this paper at: <http://aadref.googlepages.com/amcis2008>

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